

## SECTION 07 70 00

### ROOF and WALL SPECIALTIES and ACCESSORIES

#### PART 1 - GENERAL

##### 1.01 SECTION INCLUDES

- A. Roof hatches
- B. Smoke vents
- C. Gravity vents
- D. Equipment roof curbs
- E. Reglets and counterflashings
- F. Metal fascia and gravel stops

##### 1.02 MEASUREMENT AND PAYMENT

- A. General: Roof specialties and accessories will not be measured separately for payment but will be paid for as part of the Contract lump sum price for Architectural Work.

##### 1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM A167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
  - 2. ASTM A653/A653M Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
  - 3. ASTM A526/A526M Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality
  - 4. ASTM B209 Specification for Aluminum and Aluminum-Alloy Sheet and Plate
  - 5. ASTM B370 Specification for Copper Sheet and Strip for Building Construction
  - 6. ASTM D2822 Specification for Asphalt Roof Cement
  - 7. ASTM D4586 Specification for Asphalt Roof Cement, Asbestos-Free
- B. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
  - 1. SMACNA Architectural Sheet Metal Manual

- C. Underwriters' Laboratories Inc. (UL):

- 1. UL Building Materials Directory

#### **1.04 SUBMITTALS**

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Shop Drawings: Submit detailed Shop Drawings for the fabrication and installation of custom fabricated roof specialty and accessory units. Show jointing, anchorage, accessory items, and flashings.
- C. Product Data: Submit manufacturer's or fabricator's standard drawings and installation instructions for each roof specialty and accessory unit required, including product data to indicate compliance with the Contract Documents.
- D. Certification: Submit certification of fire-resistance ratings as required for smoke-vent assemblies.

### **PART 2 - PRODUCTS**

#### **2.01 FABRICATION REQUIREMENTS**

- A. Provide standard manufactured products for roof specialties and accessories as indicated, modified where necessary to meet requirements.
- B. Custom fabricate units or components that are not available as standard manufactured products.
- C. Fabricate each item in the shop as a complete unit for coordination with adjoining work. Provide mounting curb, anchorage and flashing flanges, offsets to accommodate insulation thicknesses, cant strips and nailers for roofing, expansion sleeves (concealed on exposed fascias), hardware and noncorrosive bearings for operating parts, and gaskets and sealant recesses as required to make the installation weathertight.
- D. Where exposed fasteners are necessary, provide stainless steel self-tapping screws or bolts.
- E. Wherever a fire-resistance rating is indicated for construction or surfaces that roof specialties or accessories are to be installed, provide an assembly of type and manufacture listed in the UL Building Materials Directory. Provide UL or equivalent Classification Marking or Label on each fire-rated assembly.

#### **2.02 MATERIALS**

- A. Galvanized Sheet Metal: Standard galvanized steel sheet, meeting requirements of ASTM A563/A563M and ASTM A526/A526M, with minimum zinc coating of 1.25 ounces per square foot and 0.2 percent copper bearing, and mill phosphatized for maximum paint adherence.

- B. Stainless Steel: Stainless steel sheet for architectural applications, meeting the requirements of ASTM A167, Type 304 or Type 316, with No. 4 finish.
- C. Aluminum Extrusions: Extrusions for reglets, fascia, and gravel stops, where indicated, shall be 6061-T6 aluminum alloy, with minimum thickness of 0.094 inch.
- D. Aluminum Sheet Metal: ASTM B209, 5005 or 3003-H14 aluminum alloy as appropriate.
- E. Copper: Standard cold-rolled copper sheet for building construction, conforming with ASTM B370, 24 oz or 32 oz. per square foot as indicated or required.
- F. Bituminous Plastic Cement: ASTM D2822 or ASTM D4586.

## **2.03 ROOF HATCH (SCUTTLE)**

- A. Roof scuttles shall be of sizes indicated, furnished complete with all necessary hardware and installation accessories. Curb and cover shall be fabricated from 14 gage steel, and cover liner from 22 gage steel. Provide cover with rubber draft seal. Cover insulation shall be glass fiber, minimum 1 inch in thickness.
- B. Roof scuttle shall be galvanized, treated for paint adherence, and shop coated with an approved metal primer before delivery.
- C. Provide roof scuttle complete with required operating hardware, including positive snap latch with turn handles and padlock hasps inside and outside. Hardware shall be non-ferrous or zinc-plated.

## **2.04 SMOKE VENT**

- A. Provide smoke-relief vent hatch of type and size indicated, with automatic door-opening operation, furnished complete with necessary installation accessories. Construct units of manufacturer's standard gages of metal, designed for a live load of 40 pounds per square foot. Smoke vent shall be galvanized, treated for paint adherence, and shop coated with an approved baked-on corrosion-inhibitive metal primer.
- B. Provide hatch doors with metal cover and cover liner, insulated with minimum 1-inch thick glass fiber insulation, rubber gaskets, spring hinges loaded to open against 10 pounds per square foot wind load, automatic release mechanism with 160 degree F UL-listed fusible link, and manual release latch and pull device. Provide smoke vent with emergency release device.
- C. Smoke vent shall be Listed by Underwriters' Laboratories Inc. under "Roof Vents, Automatically Operated," and shall be Factory Mutual approved to assure dependable performance.

## **2.05 GRAVITY VENTS**

- A. Provide gravity ventilators of throat size, free-air opening, and configuration as indicated. Units shall be manufactured of galvanized steel or aluminum, anodized or clear epoxy-coated. Units shall be weatherproof, and shall not permit the intrusion of water during inclement weather.

## **2.06 EQUIPMENT ROOF CURBS**

- A. Provide curb units and components for roof-mounted mechanical and electrical equipment of types and sizes as indicated, furnished complete with necessary installation accessories. Fabricate units from galvanized steel sheets, with joints and seams welded for weathertight construction. Use 14 gage steel, unless otherwise indicated. Provide integral counterflashing formed to receive built-up or single-ply roofing. Curb units shall be sized to carry weight of equipment to be supported.
- B. Form walls vertically with flanges as indicated for anchorage to deck, ready to receive roof insulation and cant strips. Insulate walls of units with minimum 1-inch thick rigid glass fiber insulation, set inside of metal wall. Provide 22 gage metal liner, extended through opening and flanged at lower edge as indicated. Use perforated or expanded metal for liner, to form sound-absorbing surfaces in unit.
- C. Provide pressure-treated wood nailers of sizes indicated, anchored to top flanges of unit in accordance with manufacturer's standard details. If size is not indicated, provide nominal 1-inch thick wood or plywood.
- D. Curb metalwork shall be galvanized, treated for paint adherence, and shop coated with an approved baked-on corrosion-inhibitive prime coat, inside and out.

## **2.07 REGLETS AND COUNTERFLASHINGS**

- A. Reglets and counterflashings shall be stainless steel, as indicated.
- B. Reglets shall be heavy-gage stainless steel of type and configuration indicated, of strength required to hold rigidly and securely spring-locked counterflashing.
- C. Counterflashings shall be 26 gage stainless steel. Counterflashings shall be shop or factory formed so that the counterflashings shall mate with and lock rigidly into the reglets.

## **2.08 FASCIA AND GRAVEL STOPS**

- A. Provide shop-fabricated fascia and gravel-stop units of types, sizes, profiles, and materials indicated or specified, to form a complete and continuous weatherproof trim system at the edge of the roofing, complete with prefabricated corner units, expansion joints, and anchorage devices.
- B. Form concealed units from manufacturer's standard metal gages, but not less than 20 gage steel.
- C. Fabricate exposed fascia trim units from extruded aluminum of thickness, alloy, temper, and hardness recommended by the manufacturer. Extruded aluminum shall be protected with a coating of 0.5 mil clear methacrylate lacquer.
- D. Fabricate exposed copper fascia, as indicated, from minimum 32 ounce copper sheet. Comply with applicable requirements and details of SMACNA Architectural Sheet Metal Manual.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrate surfaces and components to receive roof specialties and accessories and correct conditions detrimental to the proper and timely completion of the work. Do not proceed with installation work until unacceptable conditions have been corrected and accepted.

**3.02 INSTALLATION**

- A. Install roof specialty and accessory units as indicated and in accordance with the respective manufacturer's installation instructions. Install each unit plumb and level, true to line, and coordinated with adjacent related work. Anchor accessories securely to the substrate. Set flanges of units in bituminous plastic cement, and leave surfaces smooth and clean for application of roofing and flashing.
- B. Installation shall be coordinated and integrated with roofing work, properly flashed, and shall be watertight upon completion.

**END OF SECTION 07 70 00**